



**US Army Corps
of Engineers**

Philadelphia District

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
ATTN: CENAP-OP-R

Public Notice

Public Notice No.
CENAP-OP-R-200601033
CENAP-OP-R-2007-768
CENAP-OP-R-2007-770

Date

AUG 13 2007

Application No.
CENAP-OP-R-200601033
CENAP-OP-R-2007-768
CENAP-OP-R-2007-770

File No.

In Reply Refer to:
REGULATORY BRANCH

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: New Jersey Turnpike Authority
581 Main Street
Woodbridge, New Jersey 07095
Attn: Mr. Bruce Connor – Project Liaison

WATERWAY: Patcong Creek, Mullica River and Bass River

LOCATION: Garden State Parkway – Mile Post 30 to 38 and Mile Post 44 to 52
Please see figure entitled “Jurisdictional Limits of Project” (E1).

ACTIVITY: The New Jersey Turnpike Authority (NJTA) has applied for a Department of the Army Permit for a period of ten years to perform roadway improvements and bridge construction associated with the widening of the Garden State Parkway. Specifically, the NJTA is proposing to add a new travel lane and shoulder in each direction (northbound / southbound), to expand the bridge deck associated with the Patcong Creek bridge, construct a new parallel bridge adjacent to the existing Mullica River Bridge and a new parallel bridge adjacent to the existing Bass River Bridge. Upon completion of the new bridges over the Bass and Mullica Rivers, the NJTA also plans to rehabilitate the existing Bass and Mullica bridge structures. The existing bridges can not accommodate traffic while they are being re-decked. Therefore, it is necessary to construct the new structures. These new structures will also provide a redundancy that will improve motorist safety, roadway reliability and the evacuation route potential of the Garden State Parkway. Additionally, the NJTA will extend the existing stormwater culverts and will implement stormwater swales to address water quality and stormwater management.

The widening project is being funded by the NJTA. No Federal funding is provided for the work. NJTA is required to obtain Federal permits from both the United States Coast Guard (USCG) under Section 9 of the Rivers and Harbors Act of 1899 for the bridges and from the United States Army Corps of Engineers (Corps) under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The Corps has declared itself the lead Federal agency for the project. The USCG issued a Public Notice (#5-1089) on May 4, 2007 for the proposed bridge work.

Although the proposed project is being presented to all permitting agencies for review in its entirety (i.e., from Mile Post 30 to Mile Post 80), the NJTA has presented the proposed widening, from a planning perspective, as multiple stand-alone segments each capable of functioning properly and addressing a specific need independently of each other sections. When completed, each segment would be opened to the public and utilized independently of the other segments. In addition, it should be noted that the completion of each section does not require or commit the NJTA to undertake or complete any of the remaining segments. In an effort to provide both State and Federal agencies with a clear and complete picture of the NJTA's plan for the Garden State Parkway, the NJTA has decided to address the permits and approvals for each of the independent segments simultaneously, even though each segment is planned to be constructed and will operate independently of each other.

In March 1994, the State of New Jersey assumed responsibility under Section 404 of the Clean Water Act for certain Waters of the United States in New Jersey. Two independent segments of the project contain non-assumed waters and wetlands (i.e., areas regulated by the Corps) as well as some assumed waters and wetlands. A permit is required under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act for filling and work activities associated with the proposed widening within these two segments. The Corps is evaluating the impacts to assumed Waters of the United States within these two segments as well as the non-assumed waters and wetlands.

Two of the segments of the proposed project, Interchange 30 (Somers Point) to Interchange 38 (Atlantic City Expressway), and Interchange 44 (Route 561) to Interchange 52 (Little Egg Harbor), are within Federal jurisdiction (see Enclosure 1). Therefore, the Corps will focus its review on these segments where it can exert "sufficient control and responsibility to warrant federal review." (33 CFR 325, App. B, Para. 7b., "scope of analysis").

The Interchange 30 to Interchange 38 segment of the proposed widening contains the Patcong Creek Bridge (MP 31.0) and will require the placement of fill or structures in Waters of the United States (including wetlands) that will be regulated by the Corps under Section 404 of the Clean Water Act. This segment will also be regulated by the USCG under Section 9 of the Rivers and Harbors Act because of the construction activities associated with the bridge crossing.

The Interchange 44 to Interchange 52 segment of the proposed widening contains the Bass River (MP 49.0) and Mullica River (MP 31.0) Bridges. This segment will be regulated by the USCG under Section 9 of the Rivers and Harbors Act because of the construction activities associated with the two bridge crossings. In addition, this segment will require the placement of fill in Waters of the United States (including wetlands) that will be regulated by the Corps.

The NJTA is proposing to widen this portion of the Garden State Parkway in response to significant population growth and (traffic failures) increased traffic congestion, reduced levels of service and adverse impacts these conditions have upon traffic safety throughout the project corridor; and address necessary improvements to the existing Bass and Mullica River structures. Based on current and projected traffic volumes, the entire project corridor, under a “no build” scenario, will be at an unacceptable level of service by 2018.

The project would result in the permanent discharge of fill material into 6.088 acres of Waters of the United States, including wetlands. The discharge of fill material will impact 3.17 acres of tidal waters and wetlands and 2.92 acres of freshwater waters and wetlands within the two segments identified above. The majority of the wetlands impacts are proposed to occur in tidal emergent wetlands. Of the 3.17 acres of tidal emergent wetlands proposed to be filled, 0.9 acres are dominated by the invasive non-native *Phragmites australis*. The project would also impact approximately 1.13 acre of freshwater emergent wetlands, 0.68 acre of forested wetlands and 1.13 acre of scrub shrub wetlands with the remaining impacts to open water.

The NJTA has worked with the State and Federal agencies in pre-application meetings to avoid and minimize wetland disturbances to the maximum extent practicable. One minimization feature involves designing the bridge approaches utilizing retaining walls as opposed to sloped embankments. The crossings at the Bass River and Mullica River bridges will involve 0.38 acres of temporary impacts to wetlands necessary for the new bridge construction. All areas temporarily disturbed will be restored upon completion of the project.

Due to the voluminous nature of the plans and application materials, copies of environmental reports, plans and permit application support documents are available for public inspection at the municipal buildings of the municipalities where the project is located. Specifically, documents can be viewed at the Municipal Clerk's office of the following towns: South Toms River Borough, Berkley Township, Beachwood Borough, Lacey Township, Barnegat Township, Stafford Township, Ocean Township, Eagleswood Township, Little Egg Harbor Township, Bass River Township, Atlantic County, City of Port Republic, Galloway Township, Egg Harbor Township, City of Somers Point, Ocean County, Burlington County and Atlantic County during normal business hours. Enclosures 2 – 7 depict the various typical widening sections for the project. Information concerning the project can also be found at on NJTA's web site at <http://www.state.nj.us/turnpike/GSP-Widening.htm>

The NJTA is proposing to mitigate for the unavoidable loss of waters of the United States, including wetlands. The NJTA's mitigation package is currently composed of six (6) mitigation sites that comprise a total of approximately 464 acres. All or some of the mitigation sites identified will be selected as appropriate and in consultation with State and Federal resource agencies. Mitigation includes approximately 2.0 acres of tidal wetlands creation and restoration, 18 acres of tidal wetlands enhancement, 97 acres of tidal wetlands preservation, 4.8 acres of freshwater wetland enhancement, 0.2 acres of freshwater wetland creation, 0.2 acres of freshwater wetlands restoration and 139 acres of freshwater wetlands preservation. Wetland creation will be achieved through the removal of upland soils and appropriate plantings. Wetland restoration will be accomplished through the removal of historic fills within existing wetlands and appropriate plantings. Wetland enhancement will be accomplished by re-introduction of tidal hydrology and minor soil amendments and/or planting native wetland vegetation.

The mitigation sites are located in the Mullica River Basin, with the exception of the Gunning River site, as depicted on the figure entitled, "Location of Mitigation Sites" (E8 through E16). The mitigation sites are described individually below:

- **Bass River Mitigation Site**

The Bass River mitigation site is located in Bass River Township, Burlington County, off of Amasa Landing Road as depicted on the figure entitled, "Bass River Mitigation Site". The approximately 85-acre Bass River mitigation site has been subject to years of degradation by a variety of activities related to roadway construction that resulted in a large borrow pit lake and a bermed interior portion of the site, partially cut-off from the tides and partially vegetated with invasive species. The site is located along the southern boundary of Amasa Landing Road, is immediately adjacent to the eastern boundary of the Garden State Parkway, and borders the Bass River.

On the Bass River mitigation site, berms can be observed that were used to create a large containment area south of the borrow pit lake. This containment area was used to stockpile and dewater mined sand and gravel before it was placed in the alignment of the then under-construction Garden State Parkway in the 1950's. Today, a large sand island to the east can be observed as well as a smaller sand island along the southern shore of the borrow pit lake. Along the perimeter berm, remnants of outlet weirs exist including wooden structures that controlled the flow of water out of the containment area and into a tributary of the Bass River. A portion of an abandoned section of Amasa Landing Road is also located on-site. This roadbed was constructed historically in wetlands and serves as a tidal barrier to an upstream, degraded wetland area. The site is documented to contain state threatened and endangered species and serves as foraging habitat for bald eagle.

The mitigation concept for this 85-acre parcel includes removal of a portion of the dredged material disposal island and a portion of the abandoned roadbed of Amasa Landing Road to create wetlands and re-establish tidal flow from the Bass River across the perimeter berm and roadbed to enhance and restore tidal marsh hydrology.

Removal and opening of the perimeter berm and roadbed and the creation of tidal channels to the interior of the containment area will improve tidal exchange, detrital export and marsh plain access for foraging fish. Some of the excavated island material may be re-used to restore shallow water habitat along the dredged pond edge or to enhance Diamondback terrapin habitat on the same island. Localized areas of *Phragmites* may be treated and planted with native marsh species.

Construction access and staging will be from Amasa Landing Road. Earthwork will be performed by low pressure ground equipment and excavators working from mats or plank roads. Planting will be conducted using low pressure ground equipment and boats with plant installation by hand.

A pier is proposed to provide public access to the waterfront to satisfy the New Jersey Department of Environmental Protection's requirement for public access under its Coastal Rules. The proposed pier will extend from Amasa Landing Road over the marsh and provide access to the pond on-site to enjoy the view or fish. The T-shaped pier will be approximately 180-feet long and terminate in an approximately 24-foot long fishing/viewing platform. The pier and fishing platform will be 4-feet wide except in several locations, spaced approximately at 50-foot intervals, where a wider spacing of 6-feet will be constructed over an 8-foot length to permit wheel chair turnarounds. A separate Department of the Army permit is required for the pier construction and Evergreen Environmental, of Wayne, Pennsylvania, is the permittee. The Corps application number for the pier is CENAP-OP-R-2007-770.

- **Ballanger Creek Mitigation Site**

The 60.35-acre Ballanger Creek mitigation site is located in the Township of Little Egg Harbor, Ocean County, south of Route 9 and west of Mathistown Road as depicted on the figure entitled, "Ballanger Creek Mitigation Site". The site is coastal plain forest of wetland interspersed with some upland habitats. The Ballanger Creek mitigation site is located immediately adjacent to a Natural Heritage Priority Site and is mapped by New Jersey Department of Environmental Protection as forested wetlands. The site has been documented to be habitat for several state threatened and endangered species. Adjacent lands have been permitted for development making this a unique parcel of wetland habitat ideal for preservation and protection.

- **Turtle Creek Mitigation Site**

The 259-acre Turtle Creek mitigation site is located in Washington Township, Burlington County, off of Turtle Creek Road as depicted on the figure entitled, "Turtle Creek Mitigation Site". The site contains expanses of Atlantic White Cedar forest that have substantially recovered from historical logging. The site has been studied over the years and documented to contain numerous state threatened and endangered species and serve as foraging habitat for bald eagle. The Atlantic White Cedar forest ranges in hydroperiod from very wet and hummocky to mesic with a dense understory. Open habitats of bulrush marsh exist on a portion of the site that borders the floodplain of

the Wading River. The entire site will be preserved as part of the mitigation package; however, 56 acres will be specifically set-aside as freshwater wetland mitigation. The remaining 203 acres will be preserved and offered to the New Jersey Pinelands for threatened and endangered habitat mitigation. The preservation of this site will preclude the implementation of proposed development plans including logging of Atlantic White Cedar and construction of a hunting lodge by the current private landowner. Preservation of this site provides a unique opportunity for wetland habitat protection.

- **Mullica River Mitigation Site**

The approximately 32-acre Mullica River mitigation site is located in Bass River Township, Burlington County, at the mouth of the Wading River where it confluences with the Mullica River as depicted on the figure entitled, “Mullica River Mitigation Site”. This tidal marsh is located west of the Garden State Parkway adjacent to lands owned by the New Jersey Department of Environmental Protection. The tidal wetland site is a *Spartina* marsh ideally suited for wetland preservation mitigation. The site is documented to contain state threatened and endangered species and serve as foraging habitat for bald eagle.

- **Gunning River Mitigation Site**

This 8.3-acre agricultural site is located along Lower Shore Road in Barnegat Township, Ocean County. The southern border of the site is comprised of the Gunning River. The site is partially used as a Christmas tree silvaculture operation. The site drains to the southeast via surface flow and streams to the north and south. Northwest of the site and across Lower Shore Road, is an expansive wetland forest system that contains the Gunning River and an unnamed stream. Review of the aerial and stream maps indicate that the unnamed stream has historically been ditched and diverted around the subject property. The diverted stream flows under Lower Shore Road via a 2-foot culvert into a deeply incised and straightened channel that drains the northern border of the site. The site is located near a Natural Heritage Priority site. Most of the site is mapped by NJDEP as wetland with occurrences of state endangered species in the vicinity. A portion of the agricultural site contains a remnant patch of blueberry that has developed into a successional wetland forest of viburnum, magnolia, sweet gum, willow oak, holly and blueberry.

On-site soils are Atsion and Lakehurst. Both soils are known to contain hydric inclusions. The site is surrounded by mapped forested wetlands.

The Gunning River site appears to have potential for 4.6 acres of freshwater wetland restoration, 0.7 acres of freshwater wetland creation and 2.6 acres of freshwater wetland preservation subject to a precise delineation of uplands and wetlands on-site.

- **Four Mile Branch Mitigation Site**

The Turnpike Authority owns 19.7 acres of forest land east of the Garden State Parkway and south of Beachview Avenue and west of Levi's Road (Stafford Township, Ocean County, Block 51, Lot 4, 2.45 acres and Block 52, Lot 1, 17.26 acres) as depicted on the figure entitled, "Four Mile Branch Mitigation Site". The site was acquired by the Authority for wetland mitigation purposes and is composed of coastal plain forest of wetlands and some uplands related to the vacated roadbed of Levi's Road. The site includes the headwaters of Four Mile Branch, along which endangered swamp pink occurs less than a mile downstream. The site is within the approved acquisition boundary of the Forsythe National Wildlife Refuge and mitigation opportunities are preservation of wetlands and uplands.

- **Great Bay Boulevard - NJDEP Public Access Site**

The Great Bay Boulevard site, located in Egg Harbor Township, Atlantic County, is a State owned property. Work at this site is being proposed to provide public access to the waterfront facility to satisfy the New Jersey Department of Environmental Protection's requirement for public access to the waterfront under its Coastal Rules. This site contains a failed bulkhead and unimproved parking area with no real public access to the waterfront. The design, permit and construction of a new bulkhead and at grade boardwalk, boat launch facility and parking improvements can satisfy the general public's access to the waterfront. A separate Department of the Army permit is required for this work and the State of New Jersey, Department of Environmental Protection is the permittee. The Corps application number for this work is CENAP-OP-R-2007-768.

PURPOSE: The purpose of the project is to improve the level of service within the project corridor, by providing an additional lane northbound and southbound, and to improve public safety by providing shoulders and addressing the deficient infrastructure of the existing Bass and Mullica River Bridges.

Correspondence from the United States Fish and Wildlife and National Marine Fisheries Service indicates that while federally threatened and endangered species may exist within the project area, and that the work is not likely to adversely effect those species. Additionally, USFWS indicated in a letter dated March 13, 2007 that four of the six mitigation sites do not have any threatened or endangered species present or that the work will not effect threatened or endangered species. Coordination is continuing on the other two mitigation sites and the public access sites. The National Marine Fisheries Service stated in a letter dated December 22, 2006 that there are no likely species that occur within the waters affected by the project. The U.S. Fish and Wildlife service stated in a letter July 31, 2006 that certain Federal Species may be present within the project corridor. Studies prepared by the NJTA, indicate that these species will not be directly impacted. The Corps, being the lead Federal agency, is seeking concurrence from USFWS that the project will not likely have an adverse effect on listed species.

The decision of whether to issue a permit will be based on an evaluation of the project's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the project must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the project will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Army Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above.

Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the proposed work should be submitted, in writing, within 30 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

The NJTA, on behalf of the lead Federal agency, the Corps, coordinated with the New Jersey State Historic Preservation Officer (SHPO) in accordance with 36 CFR Part 800 pursuant to Section 106 of the National Historic Preservation Act. The lead Federal agency and the SHPO have identified the entire project corridor to be an eligible historic property. The SHPO has concluded, in a letter dated February 23, 2007, that four of the six mitigation sites do not have any historical resources present. Coordination is on-going concerning the other mitigation sites and the public access sites. Consulting and interested parties were solicited through direct mailings and posting on the NJTA website of the proposed project. Overall, the proposed project will have an adverse effect on the historic corridor. The effects of the proposed project on the historic corridor is based on project impacts to contributing elements that comprise the resource and these effects are being determined by the lead Federal agency in consultation with the SHPO and the NJTA. Because the proposed project design will span several years, final design of the entire corridor is not completed. As such, the NJTA is coordinating with the SHPO and the lead Federal agency to develop a programmatic agreement (PA) for the Project. This PA will include mitigation measures to offset adverse effects to historical resources as well as procedures for the completed design and construction of the proposed project.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National

Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely effect Essential Fish Habitat (EFH). An assessment of the projects impacts on EFH has been submitted to NMFS separately.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a state's coastal zone must provide certification that the activity complies with the state's Coastal Zone Management Program. The NJTA has stated that the proposed activity complies with and will be conducted in a manner that is consistent with New Jersey's approved Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed project on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, United States Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by calling Michael H. Hayduk at (215) 656-5822 Monday through Friday between the hours of 1:00 and 3:30 p.m. or writing this office at the above address.

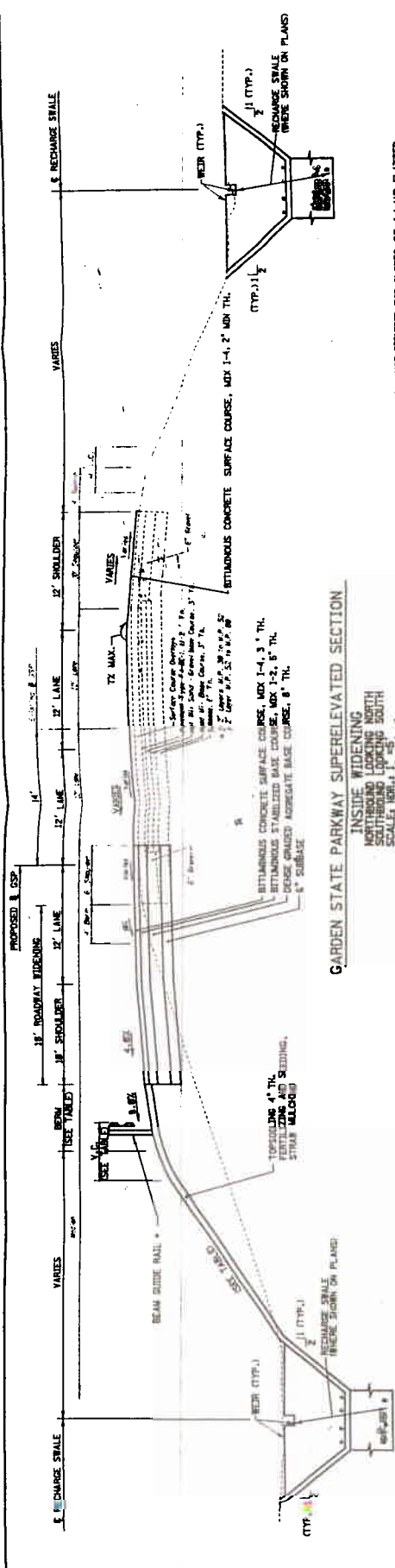


Frank J. Cianfrani
Chief, Regulatory Branch

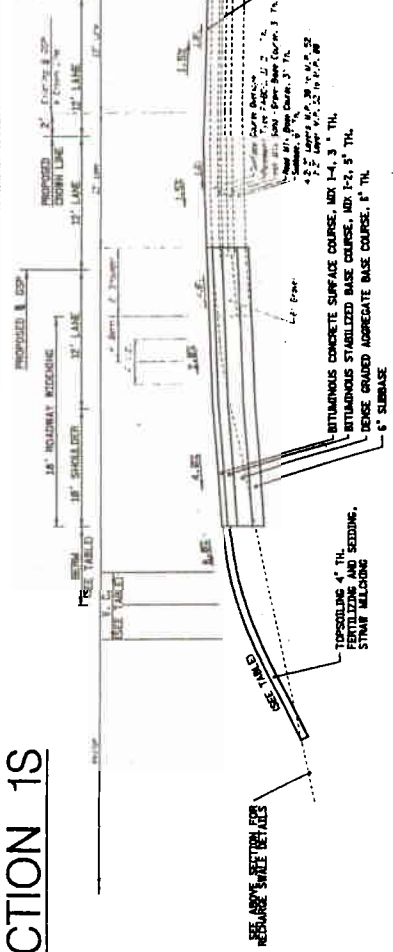


SECTION 1S

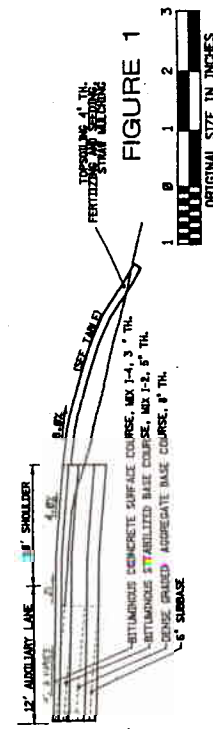
• GUIDE RAIL NOT REQUIRED FOR SLOPES OF 4:1 AND FLATTER



SECTION 1N



SECTION 1



SLOPE TABLE

FILL HEIGHT	SLOPE	BERM WIDTH	V.C.
8' - 10'	4:1	3'	6'
> 10'	3:1	1'	6'
IN RETRACTION	1 1/2:1	4'	4'
CUT	2:1	1'	6'

NOTE: 1. VERTICAL LETTERING DEPICTS PROPOSED CONDITIONS.
2. PAVEMENT BOX SHOWN FOR COST ESTIMATING PURPOSES ONLY.
3. SUBJECT TO FINAL PAVEMENT DESIGN.

NEW JERSEY HIGHWAY AUTHORITY
GARDEN STATE PARKWAY
CONTRACT NO. 133-6720
GSP WIDENING M.P. 30 TO M.P. 80

TYPICAL SECTIONS

SCALE: AS SHOWN
DATE: APRIL, 2002
FREDERICK J. HOLMANN, N.J.P.E. # 17253

REVISION	BY	DATE

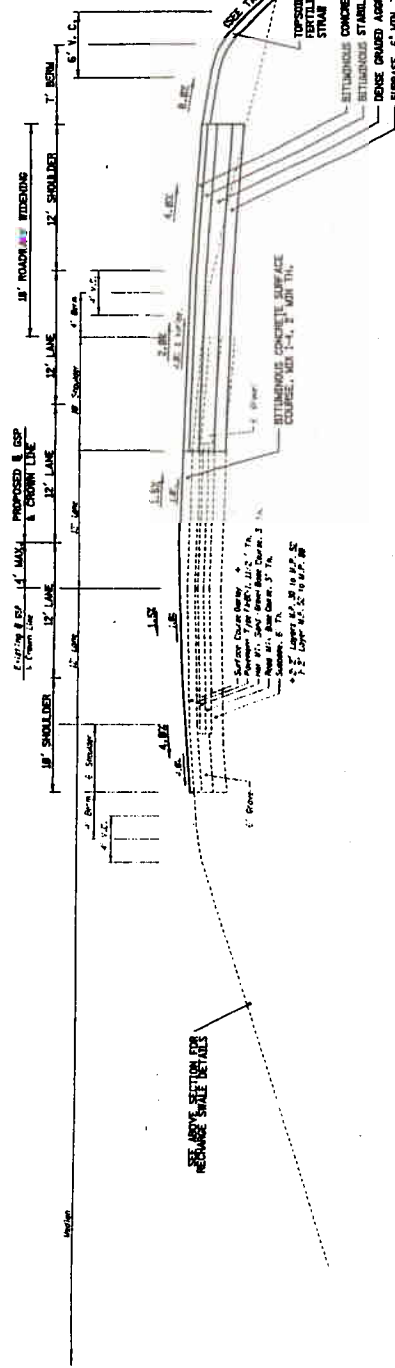
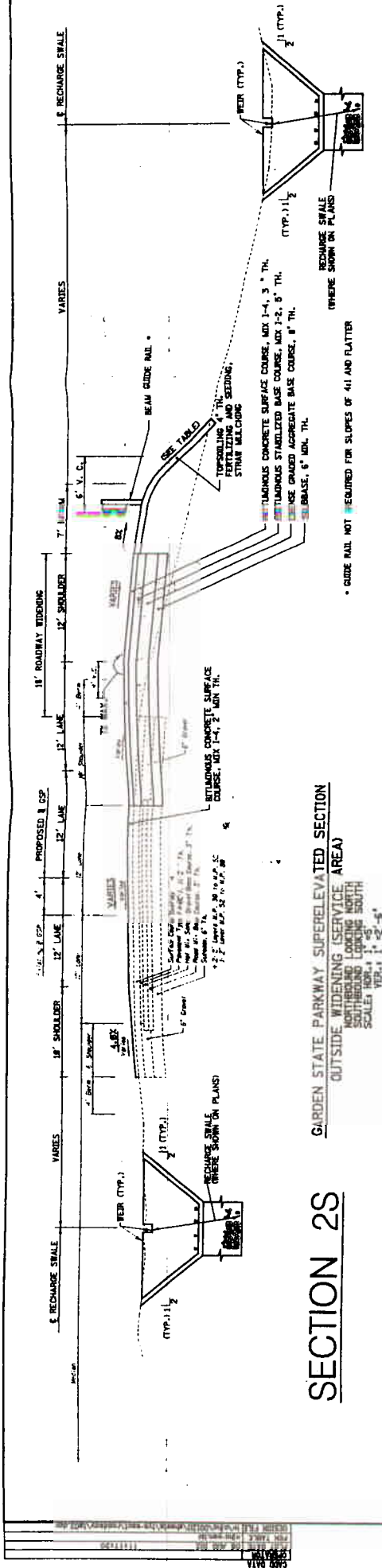
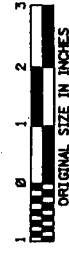


FIGURE 2



NEW JERSEY HIGHWAY AUTHORITY
GARDEN STATE PARKWAY
CONTRACT NO. 133-872D
OSP WIDENING M.P. 30 TO M.P. 80

TYPICAL SECTIONS

SCALE: AS SHOWN
DATE: APRIL, 2002
Frederick J. Holmann, N.J.P.E. # 17253

SLOPE TABLE

FILL HEIGHT	SLOPE	BERM WIDTH	V.C.
0 - 18"	4:1	3'	5'
> 18"	2:1	3'	5'
IN RETAINING WALLS	1 1/2:1	4'	4'
CUT	2:1	3'	4'

PROPOSED 11' WIDE HIGHWAY

12' LANE

12' SHOULDER

12' BERM

RECHARGE SWALE

BEAM GUIDE RAIL

TOPSOILING 4" TH. FERTILIZING AND SEEDING.

STRAT MALLIONS

RECHARGE SWALE (WHERE SHOWN ON PLANS)

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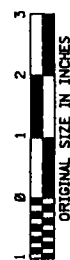
299 (TYP.)

300 (TYP.)

[illegible]

SLOPE TABLE			
FILL HEIGHT	SLOPE	BERM WIDTH	V.C.
$\theta = 18'$	4:1	3'	6'
$\theta = 18'$	2:1	7'	6'
IN WETLANDS	1 1/2:1	4'	4'
CUT	2:1	3'	4'

SECTION 3N



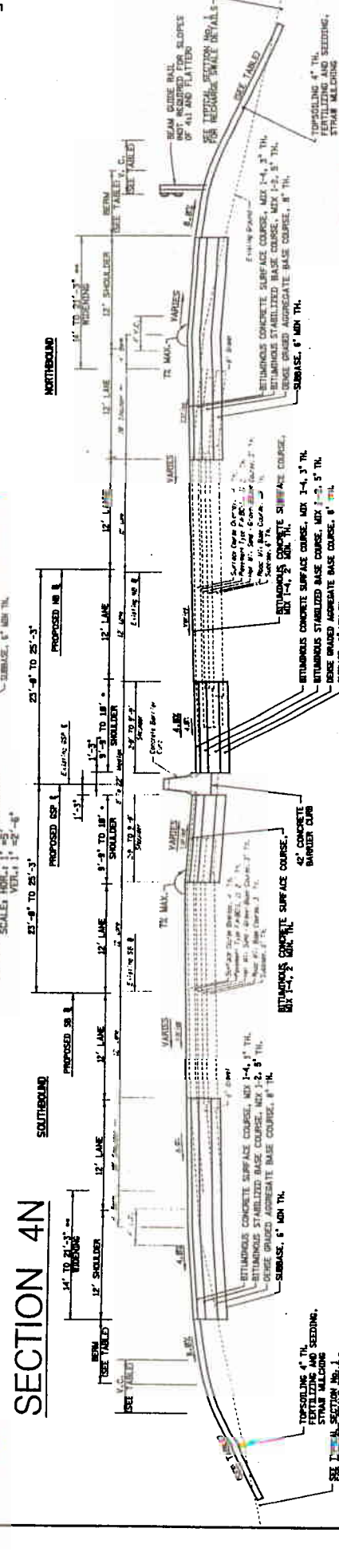
NEW JERSEY HIGHWAY AUTHORITY
GARDEN STATE PARKWAY
CONTRACT NO. 133-572D
RCS SP WIDENING M.P. 30 TO M.P. 80

TYPICAL SECTIONS

T.M.
IN TONKAL AND
MAYE FROM NJ 07068
SCALE AS SHOWN
DATE APRIL 2002

NOTE:

1. *State Lettering Decoder: Examine Condition*
2. VERTICAL LETTERING DEFECT'S PROPOSED CONDITIONS
3. PAVEMENT BOX SHOWN FOR COST ESTIMATING PURPOSES ONLY. SUBJECT TO FINAL PAVEMENT DESIGN.



SECTION 4S

SLOPE TABLE			
FILL	SLOPE	BERM WIDTH	V.C.
Ø - 18"	4:1	3'	6'
> 18"	2:1	7'	6'
IN	1 1/2:1	4'	4'
CUT	2:1	7'	6'

VERTICAL LETTERING DEPICTS PROPOSED CONDITIONS
SUBJECT TO FINAL PAVEMENT DESIGN.

TYPICAL SECTIONS

TM 5 TERRILL DRIVE
MIDDLEBURY, VT 05750
SCALE: AS SHOWN
DATE: APRIL, 2002
Frederick J. Hoffmann, N.J.P.E. # 17253

[illegible]

1

USED: CONDITIONS
PURPOSE ONLY
IN.

or Solating Condition

VERTICAL LETTER
PAVEMENT BOX F
SUBJECT TO FINA

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4	6
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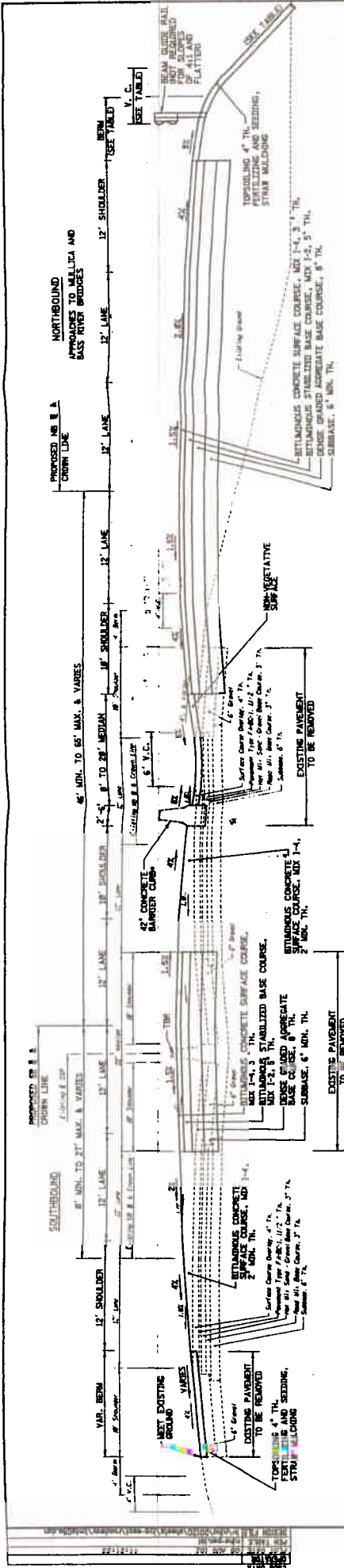
4'	7'
----	----

1 1/2:1	
2:1	

IN	CUT
----	-----

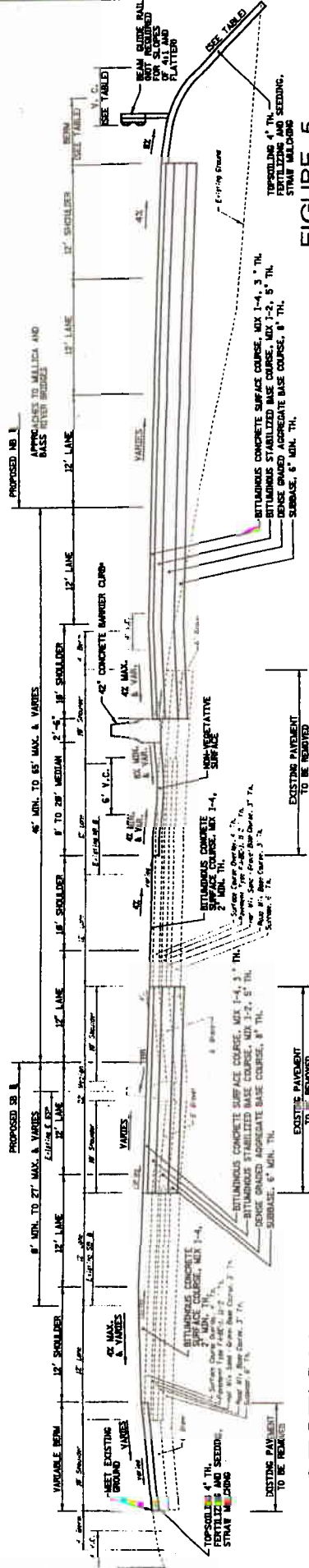
003. 0Y	004. 0Y	172. 0Y	151. 0Y
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ES



SECTION 5N

GARDEN STATE PARKWAY NORMAL SECTION WIDENING TO THE EAST SCALE: HORIZ. 1" = 20'-0"



SECTION 5S

GARDEN STATE PARKWAY SUPER-ELEVATED SECTION WIDENING TO THE EAST SCALE: HORIZ. 1" = 20'-0"

SLOPE TABLE

FILL HEIGHT	SLOPE	BERM WIDTH	V.C.
0 - 1.5'	4:1	3'	6'
1.5' - 3.0'	3:1	4'	6'
3.0' - 4.5'	2.5:1	4'	6'
4.5' - 6.0'	2:1	4'	6'

FIGURE 5



ORIGINAL SIZE IN INCHES

NEW JERSEY HIGHWAY AUTHORITY
GARDEN STATE PARKWAY
CONTRACT NO. 139-872D
GSP WIDENING M.P. 90 TO M.P. 90

TYPICAL SECTIONS

SCALE: AS SHOWN
DATE: APRIL 2002
Frederick J. Hahnemann, N.J.P.E. # 17253

NOTES:
1. THESE TYPICAL SECTIONS ARE FOR INFORMATION ONLY.
2. THESE TYPICAL SECTIONS ARE NOT TO BE USED FOR ESTIMATING PURPOSES.
3. THESE TYPICAL SECTIONS ARE SUBJECT TO FINAL PAYMENT SECTION.
4. LOCATION OF 42' CONCRETE BARRIER CURB WILL BE AS SHOWN ON PLANS.

NEW JERSEY HIGHWAY AUTHORITY
GARDEN STATE PARKWAY
CONTRACT NO. 133-672D
GSP WIDENING M.P. 30 TO M.P. 80

TYPICAL SECTIONS

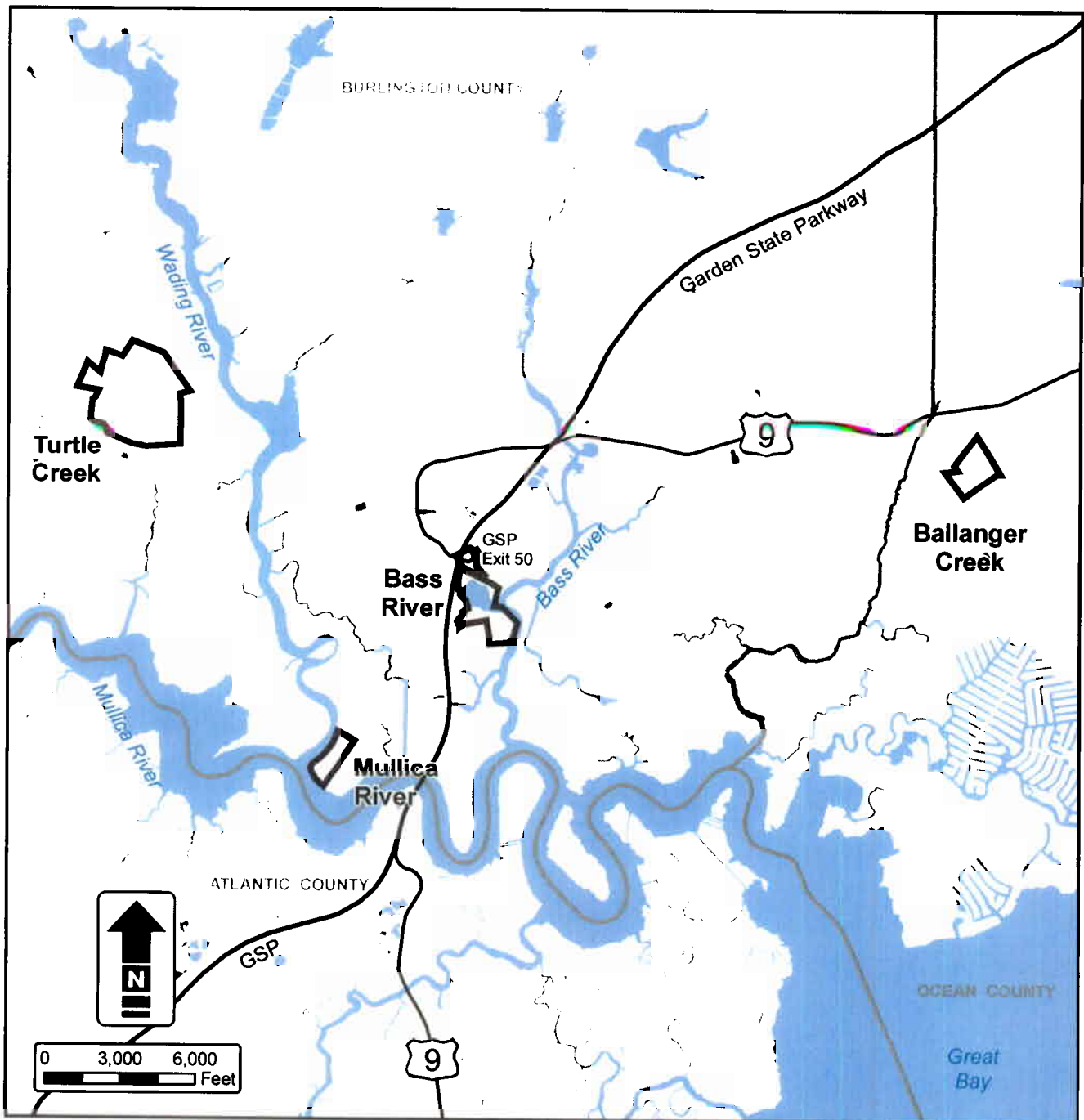
TEM IN SPECIAL AND
UNUSUAL SITUATIONS
SCALE: AS SHOWN
DATE: APRIL, 2002
Frederick J. Hofmann, N.J.P.E. # 17253

NOTES:

1. *Surfing the Limits: Estimating Conditions*
2. VERTICAL LETTERING DEPICTS PROPOSED CONDITIONS
3. PAVEMENT BOX SHOWN FOR COST ESTIMATING PURPOSES **ONLY.**
SUBJECT TO FINAL PAVEMENT DESIGN.

SLOPE TABLE				
FILL	HEIGHT	SLOPE	BERM WIDTH	V.C.
8"	1'	4:1	3'	6'
12"	1'	2:1	1'	6'
18"	1 1/2'	1 1/2:1	4'	4'
24"	2'	2:1	2'	4'

- GUIDE RAIL NOT REQUIRED FOR SLOPES OF 4:1 AND FLATTER



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Princeton Hydro

pH

LOCATION OF MITIGATION SITES **WASHINGTON TWP, BASS RIVER TWP** **AND LITTLE EGG HARBOR TWP** **BURLINGTON & OCEAN COUNTIES** **NEW JERSEY**

Legend

- Mitigation Sites
- Lakes and Streams
- Garden State Parkway
- US Route 9
- County Boundaries

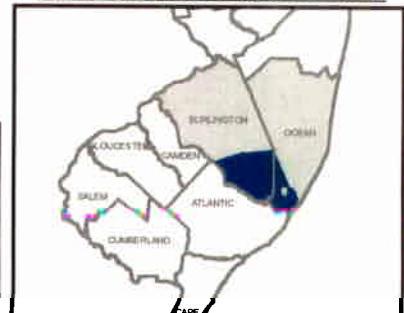


425 Darby Paoli Road
Wayne, PA, 19087

SOURCES:

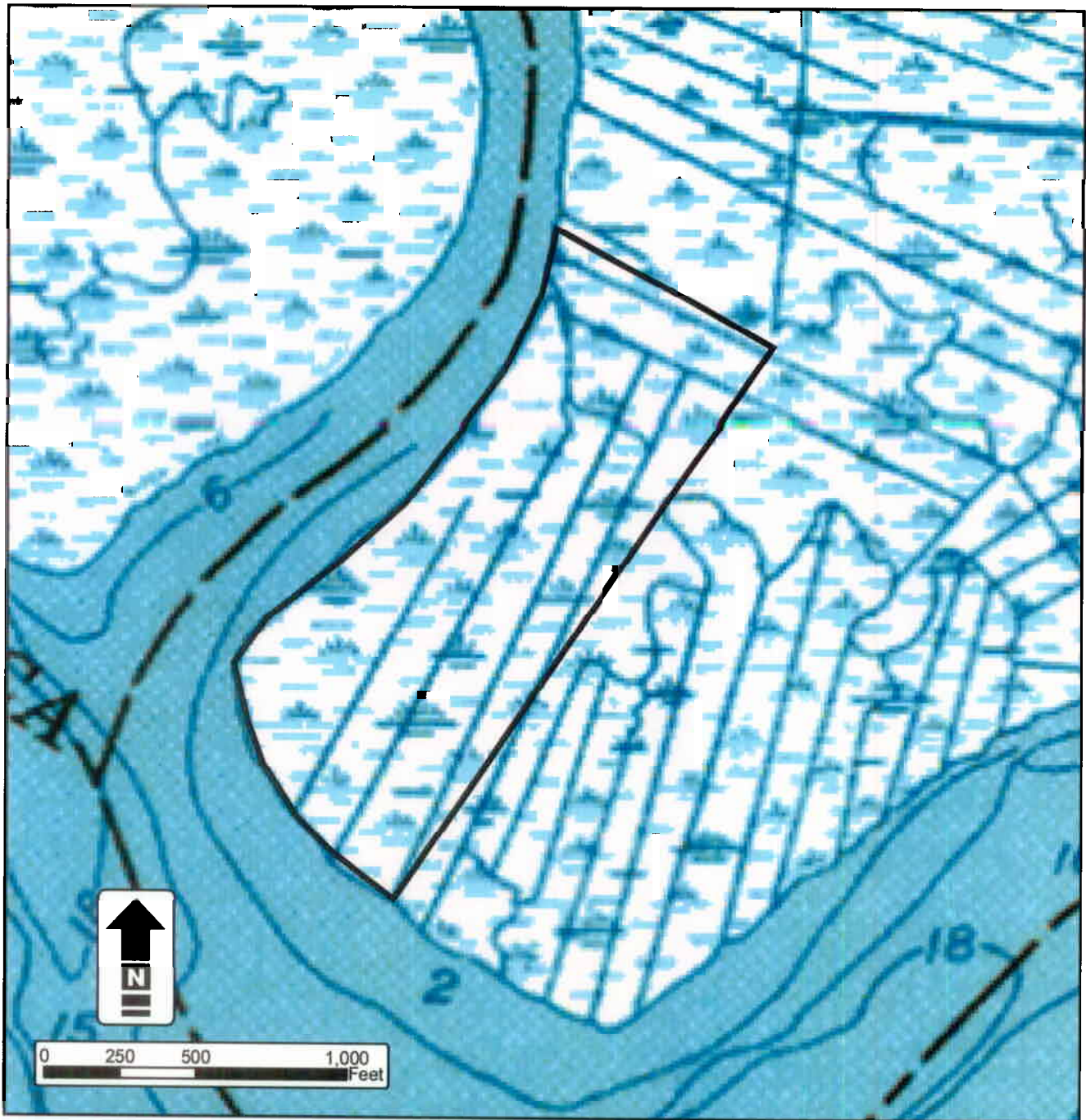
1. Site boundary was obtained from B&B.
2. County, road, lake and stream data as obtained from the NJDEP GIS website.

NEW JERSEY COUNTY MAP



File: P:\0734\F\jects\0734000\GIS\Map\DMitigation\SiteLocations.mxd Apr 23 2007 3:19:49 PM Copyright Princeton Hydro LLC

P:\10734\Projects\10734009\GIS\Map\MullicaRiver_USGS.mxd Apr 23: 2007 3:45:31 PM Copyright Princeton Hydro, LLC



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pH

MULLICA RIVER MITIGATION SITE

NEW JERSEY TURNPIKE AUTHORITY
GARDEN STATE PARKWAY 30-80 WIDENING
BURLINGTON COUNTY
NEW JERSEY

Legend

 Mullica River Mitigation Site



425 Darby Paoli Road
Wayne, PA, 19087

SOURCES:

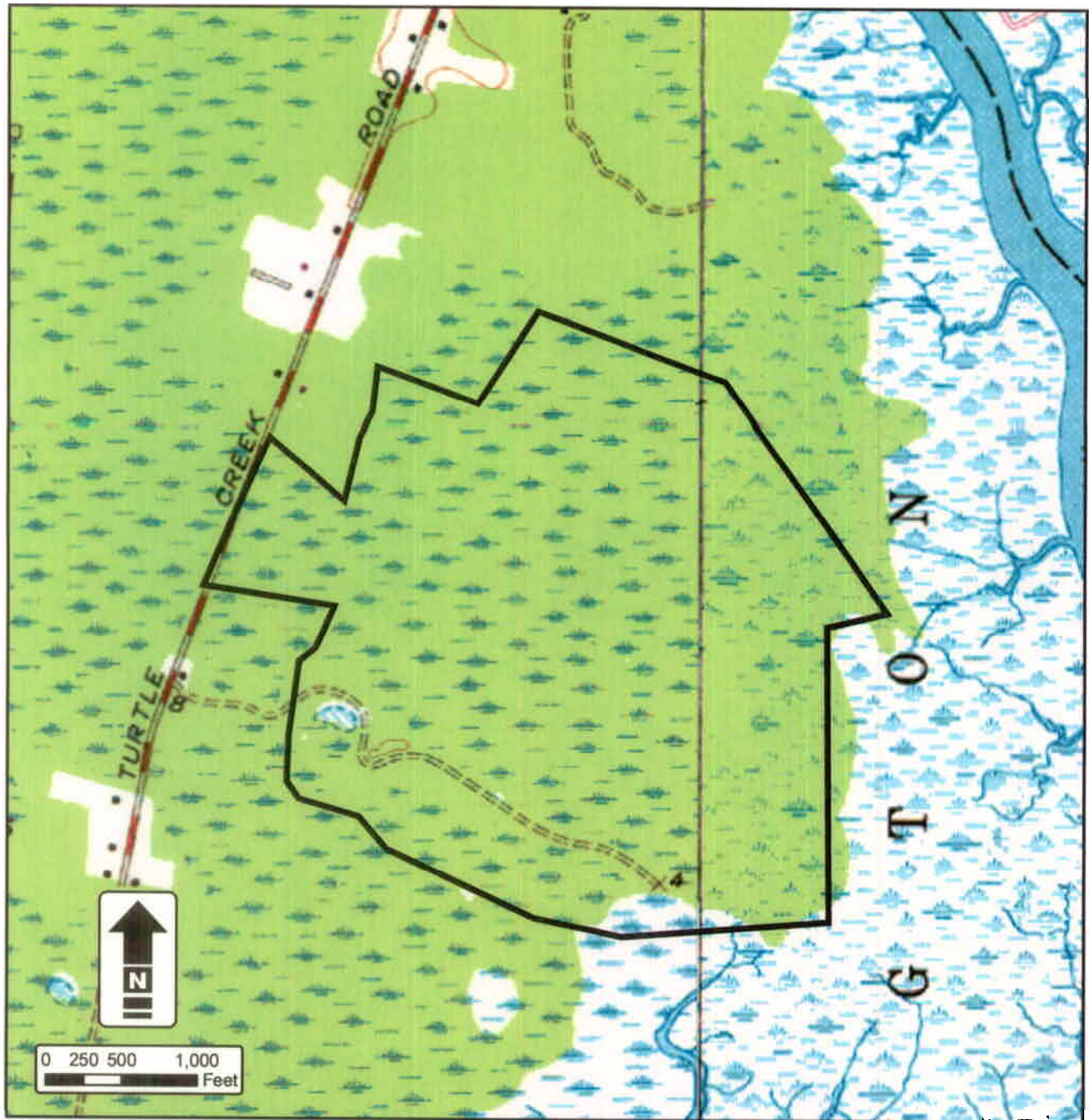
1. Site boundary was obtained from B&B.
2. USGS 7.5 Minute Quadrangles of New Gretna and Green Bank, New Jersey

NEW JERSEY COUNTY MAP



E9

File: P:\07341P\Projects\0734007\GIS\MXD\TurtleCreek_USGS_PN.mxd Apr 23, 2007 3:43:38 PM, Copyright Princeton Hydro, LLC.



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PH

TURTLE CREEK MITIGATION SITE

NEW JERSEY TURNPIKE AUTHORITY
GARDEN STATE PARKWAY 30-80 WIDENING
WASHINGTON TOWNSHIP
BURLINGTON COUNTY, NEW JERSEY

Legend

 Turtle Creek Mitigation Site

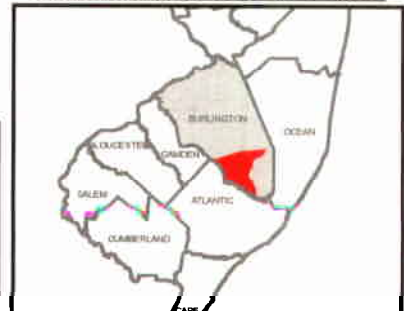


425 Darby Paoli Road
Wayne, PA, 19087

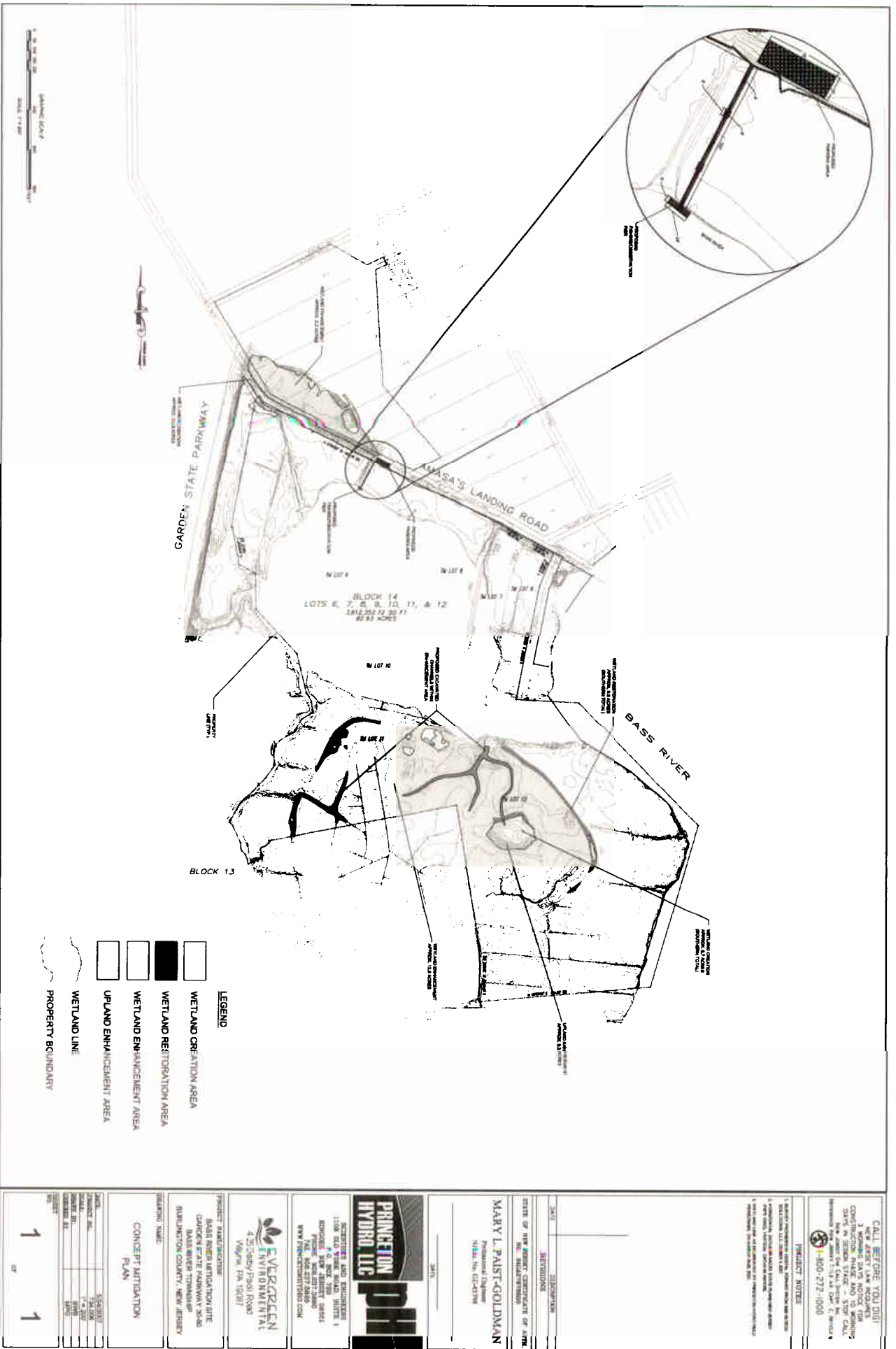
SOURCES:

1. Site boundary obtained from B&B.
2. USGS 7.5 Minute Quadrangles of New Gretna and Green Bank, New Jersey

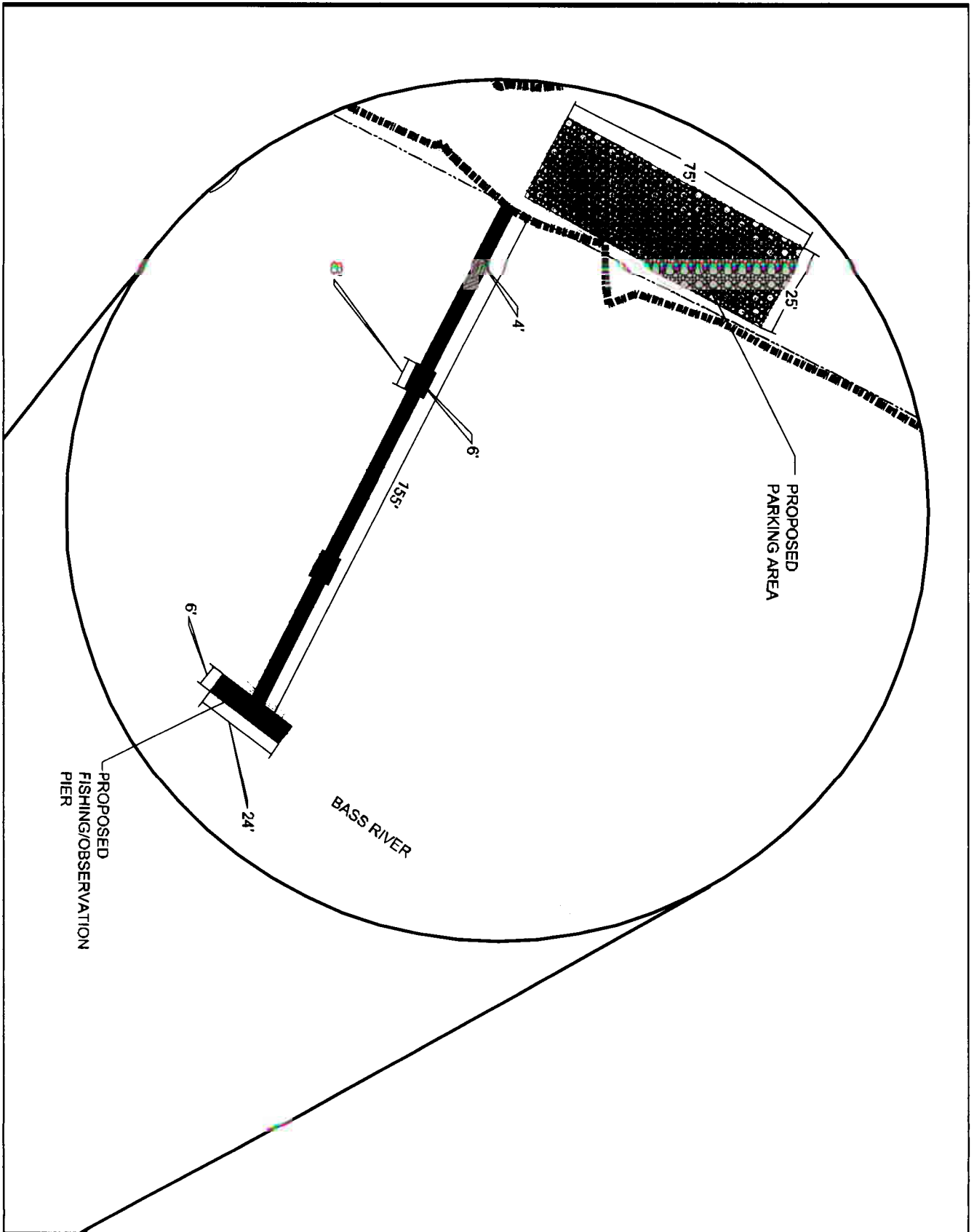
NEW JERSEY COUNTY MAP

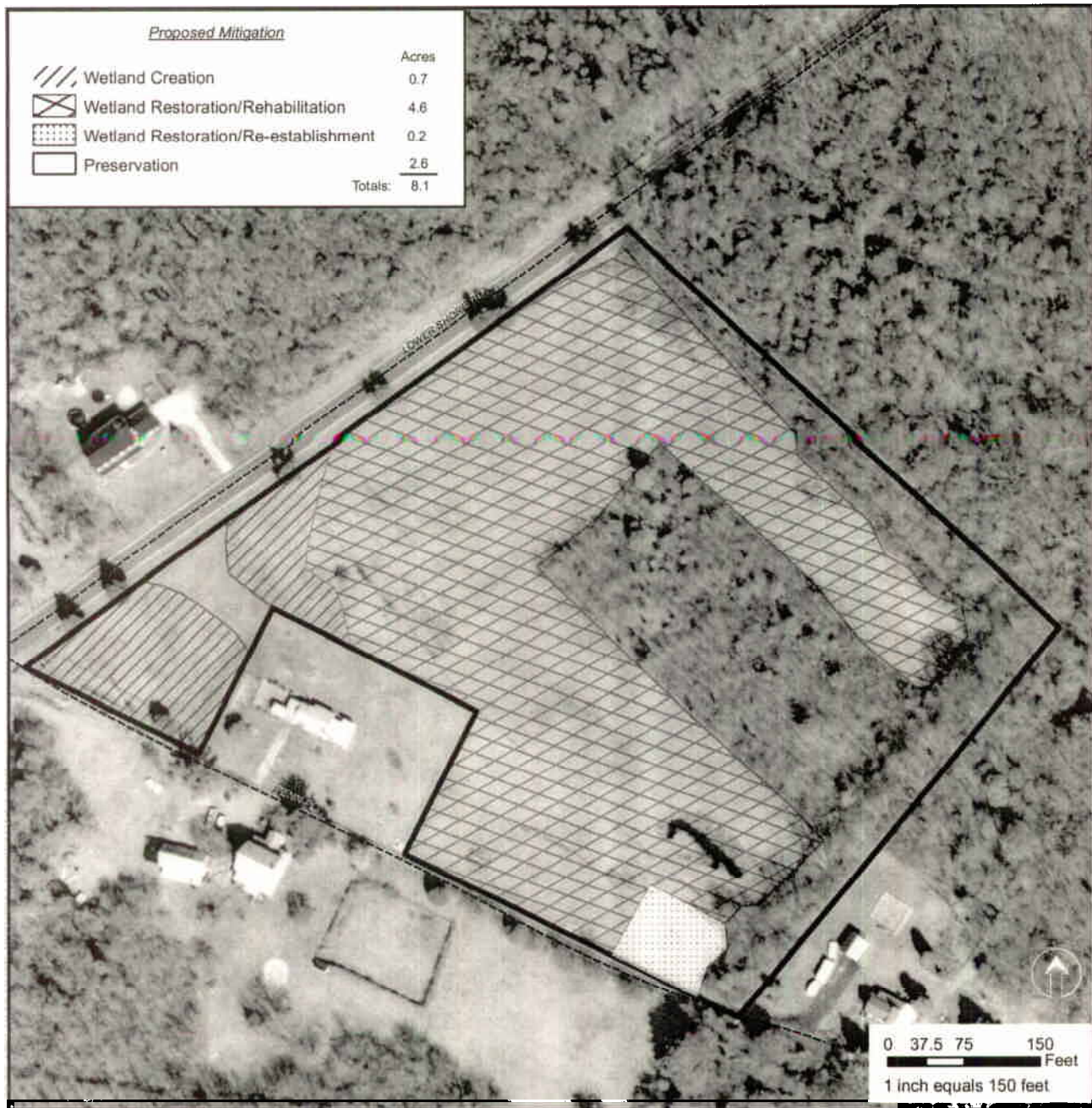


E10



EC





CONCEPT MITIGATION PLAN

GUNNING RIVER MITIGATION SITE
GARDEN STATE PARKWAY 30-80
BARNEGAT TOWNSHIP
OCEAN COUNTY, NEW JERSEY

LEGEND

Property Boundary
-- Roads

PRINCETON HYDRO, LLC.
1108 OLD YORK ROAD, P.O. BOX 720
RINGOES, NJ 08551

Wayne, PA 19087

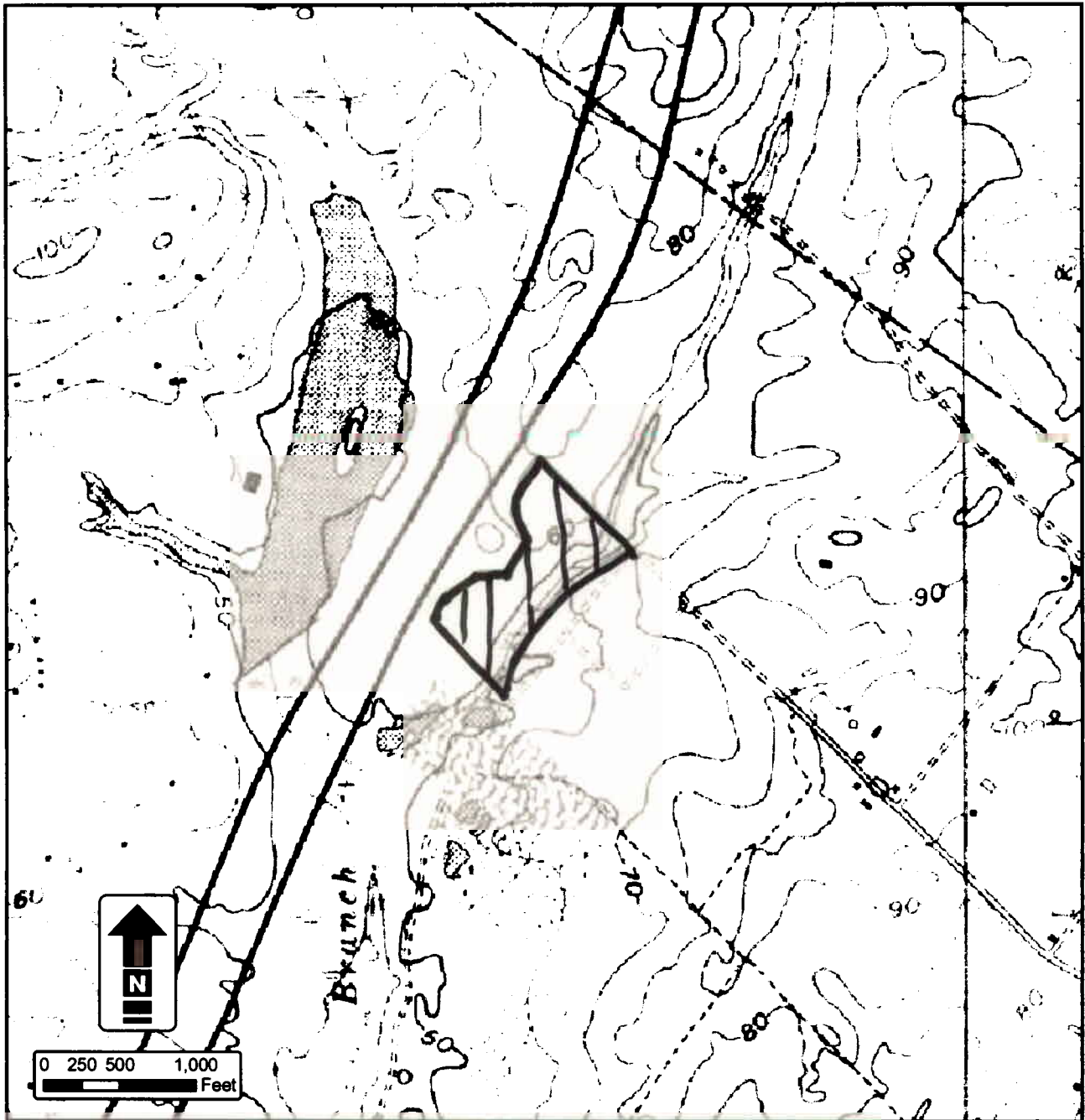
SOURCES:

1. Parcel boundaries heads up digitized from tax maps. Inaccuracies may exist.
2. New Jersey 2002 High Resolution Orthophotography obtained from the New Jersey Image Warehouse.

NEW JERSEY COUNTY MAP



514



1108 Old York Road, Suite 1, Ringoes, NJ, 08551

Princeton Hydro



USGS QUADRANGLE

FOUR MILE BRANCH MITIGATION SITE
GARDEN STATE PARKWAY 30-80
STAFFORD TOWNSHIP
OCEAN COUNTY, NEW JERSEY

Legend

Four Mile Branch Mitigation Site



425 Darby Paoli Road
Wayne, PA, 19087

SOURCES:

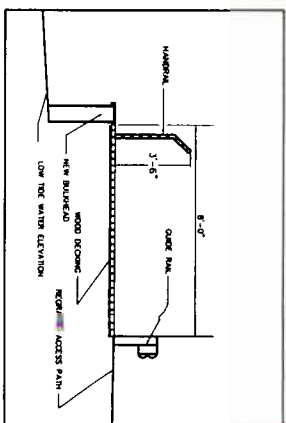
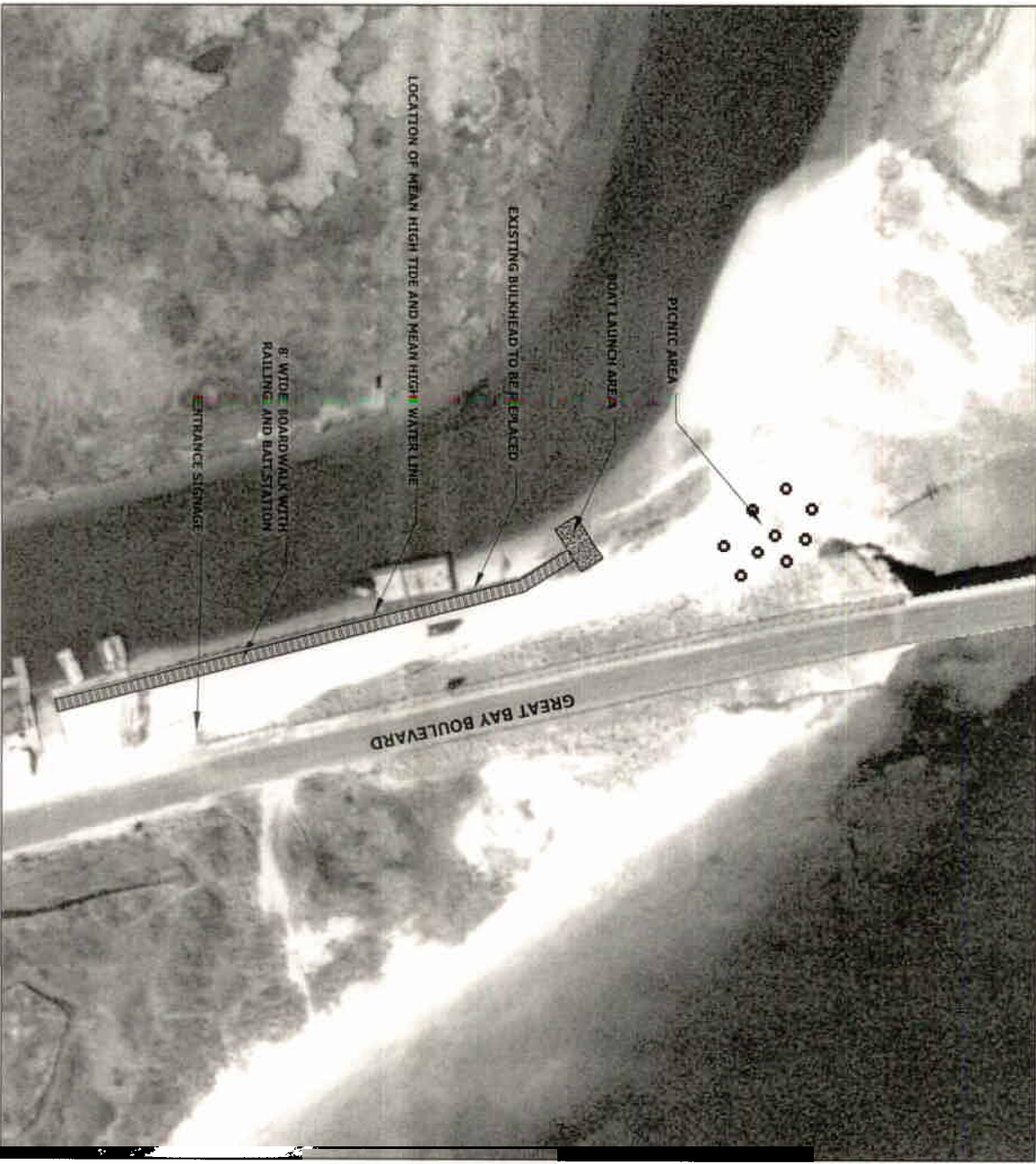
1. Site boundary is not an official PLS survey. Inaccuracies may exist.
2. USGS 7.5 Minute Series Topographic Map for West Creek, NJ, as exported from Terrain Navigator Pro.

NEW JERSEY COUNTY MAP

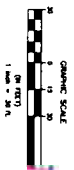
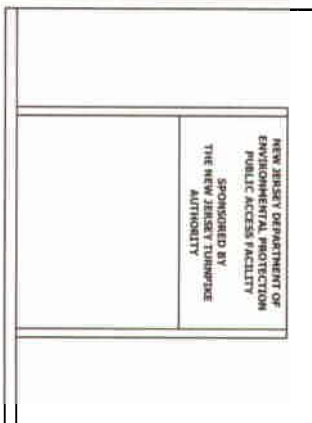


E15

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TYPICAL BOARDWALK SECTION



NO.	DATE	DESCRIPTION	BY	CHKD
1	01/11/07	TOWNSHIP OF LITTLE EGGS HARBOR		
2	02/01/07	GREAT BAY PUBLIC ACCESS		
3	02/01/07	LITTLE EGGS HARBOR, OCEAN COUNTY, NEW JERSEY		
4	02/01/07	PUBLIC ACCESS CONCEPT PLAN		
5	02/01/07	FORWARD R. KLUMP, P.E.		
6	02/01/07	CONCEPT PLAN		
7	02/01/07	CONCEPT PLAN		
8	02/01/07	CONCEPT PLAN		
9	02/01/07	CONCEPT PLAN		
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